

**Special Summer 1990
Edition**

***RE* RUN**

**Never-Before-Published
RUN Programs on Disk**

For the C-64 and C-128

- ✓ **Arcade-style racing on the 64!**
- ✓ **Enhance your Basic
windowing capability**
- ✓ **Connect the dots on your 128**
- ✓ **Alphabetizing fun on the 64!**
- ✓ **Calculating 128 combat**
- ✓ **geoPaint viewing**
- ✓ **Store and print addresses**
- ✓ **And more!**

Introduction

Special Summer 1990 ReRUN

WELCOME TO RERUN'S SUMMER EDITION. As most of our readers know, *RUN* has always been published monthly and ReRUN, bimonthly. However, because the magazine's frequency changed to ten times per year, we've produced this Special Summer edition of ReRUN, ensuring that subscribers receive their six issues.

One unique aspect of this ReRUN is that none of the programs have ever been published in the magazine.

This edition's blockbuster program is Go-Carts. Written by Charles Orcutt, it's a C-64 game of commercial quality. Using a joystick in a grueling race against the clock, you pilot your go-cart around a track that's crowded with other go-carts. Race fans from eight to 80 will find this a thrilling, challenging game.

While you're in a competitive, game-playing mood, try Recoil, the next C-64 game on the disk. Your goal is to avoid obstacles and collect items without crossing back over your own path. The reward for completing one level is another level, more difficult than the first.

Quick Windows, a C-64 window-making utility and demo is next. Any programmer, regardless of his or her level of expertise, will tell you that you can never have too many window-making utilities in your software library.

Crazy Squares is a fun-filled program for the C-128 in 40-Column mode. Based on the traditional connect-the-dots game and designed for two to four players, Crazy Squares provides an alternate form of entertainment on those summer nights when friends drop by.

Long-time *RUN* readers will recognize the name Penny DeGross. A truly creative programmer, Penny provided Out of Order, a clever letter arranging and dodge-'em-type C-64 game.

Next up is Cannonade, a two-player, war strategy game that lets you adjust, aim and lob artillery shells, and then witness the destruction in a U.S. versus U.S.S.R. war.

Following this is one of my GEOS favorites, PaintView III. A C-128, 80-Column mode version of Joe Buckley's earlier PaintView programs, PaintView III lets you load in and scroll through an

entire geoPaint image from disk. As a time-saving utility, every GEOS 128 user will benefit from PaintView III.

You may be used to a dog-eat-dog world, but Alley Wars, a pure machine language C-64 game, makes it a dog-eat-cat world! Both dogs and cats vie for ruling the neighborhood alleys.

On the more serious side of computing, there's Address Manager, a time-saving name and address keeper designed for people who are too busy to learn complicated databases. It's one of the best C-64 application programs I've seen yet for cataloging names and addresses and printing labels.

Frantic! finishes up this edition of ReRUN. One to four players can play this computerized version of Parcheesi. Your success in this game depends largely on decisions and the roll of the dice. All four players can also be played by the computer.

That's the lineup for this ReRUN issue. Enjoy yourselves this summer, and I'll return shortly with the August/September/October edition of ReRUN.



*Technical Manager
RUN Magazine*

Directory

PAGE	DOCUMENTATION	DISK FILENAME	FILE TYPE
		* MENU 128 _____	BASIC
		MENU 64 _____	BASIC
1	GO-CARTS	GOCARTS _____	ML
		TABLE _____	ML
		OFFSETS _____	ML
2	RECOIL	RECOIL _____	BASIC
3	QUICK WINDOWS	WINDOWS _____	ML
		WINDOW DEMO _____	BASIC
4	CRAZY SQUARES	*CRAZY SQUARES _____	ML
6	OUT OF ORDER	OUT OF ORDER _____	BASIC
7	CANNONADE	*CANNONADE _____	BASIC
9	# PAINTVIEW III	*PAINTVIEW _____	BASIC
		PAINTVIEW III _____	ML
11	ALLEY WARS	ALLEY WARS _____	ML
12	ADDRESS MANAGER	ADDRESS MANAGER _____	BASIC
		GRAPHICS FILE _____	SEQ
		DATA FILE _____	SEQ
		GRAPHICS PROGRAM _____	BASIC
		DATA PROGRAM _____	BASIC
14	FRANTIC!	FRANTIC _____	BASIC

* — C-128 mode only

— Requires GEOS

Before you run a program, carefully read the documentation that pertains to it.

How To Load

LOADING FROM MENU

To get started, C-64 users should type LOAD "MENU 64",8 and press the return key. When you get the Ready prompt, the menu is loaded and you should type RUN to see a list of the programs on your disk. C-128 users need only press the shift and run-stop keys. When all the programs are displayed on the screen, you can run the one you select by pressing a single key.

LOADING FROM KEYBOARD

If you do not wish to use the menu program, follow these instructions.

C-64: To load a C-64 program written in Basic, type: LOAD "DISK FILENAME",8 and then press the return key. The drive will whirl while the screen prints LOADING and then READY, with a flashing cursor beneath. Type RUN and press the return key. The program will then start running. To load a C-64 program written in machine language (ML), type: LOAD "DISK FILENAME",8,1

C-128: All C-64 programs can be run on the C-128 as long as your computer is in C-64 mode. All C-128 programs are clearly labeled on the directory page. Your C-128 *must* be in C-128 mode to run these programs. To load a C-128 mode program, press the F2 key, type the disk filename and then press the return key. When the program has loaded, type RUN.

MAKING COPIES OF ReRUN FILES

Many programs on your ReRUN disk have routines that require a separate disk onto which the program writes or saves subfiles. To use these programs, you must first make a copy of the original program onto another disk that has enough free space on it to hold these newly written subfiles.

It's simple to make a copy of a Basic program. Just load it into your computer as outlined above, and then save the program back onto a separate disk that has plenty of free space for extra files.

Copying an ML program is not so simple. You cannot simply load and save an ML program; you'll need to use a disk-backup utility program, such as the one on your Commodore Test Demo disk.

Go-Carts

By Charles Orcutt

SMELL THE BURNING RUBBER as your go-cart careens around the perilous curves! Go-Carts, an arcade-style racing game, pits you against a number of computerized drivers. The object is to earn points by passing the other go-carts on the curvy road.

A joystick plugged into port 2 is used to accelerate, decelerate and steer. You must time each pass perfectly and accurately adjust your speed to the radius and slope of each curve; on the really sharp ones, you should slow down to around 30 to avoid sliding into traffic. When the road curves to the right, pass in the right lane; when the road curves to the left, pass in the left lane. Every cart passed is worth five points.

You start the race with five go-carts, which race one at a time. Whenever your cart collides with another or runs out of time, it disappears. However, you won't lose a cart that has passed at least 29 others in a single race. It's not impossible; I've passed 33.

A race lasts 60 seconds. You can pause the action by pressing the space bar and restart it by pressing the F1 key.

As you race, the track moves down in front of you in 3-D fashion and mountains scroll in the background. In spite of all this action, the screen update is as rapid as the monitor raster rate itself.

If you want to make a copy of Go-Carts on a work disk, make sure you have at least 93 blocks free before running it the first time—the program has to generate two additional files. The next time you run the program, the files will be there, ready to be loaded.

You may need to remove DOS enhancement cartridges to generate the two accessory files, because some cartridges fail to work with Go-Carts. I had no trouble with Warp Speed, but I couldn't generate the two files with Epyx's FastLoad in place.

PROGRAM NOTES

Go-Carts predefines the 15 track curves in RAM. The yellow in the middle line and the red in the shoulder lines are defined in

multicolors, then the raster interrupt swaps the midline colors between yellow and black and the shoulder line colors between red and white.

There's no elaborate, memory-consuming layout for the track. Instead, it's defined by simple logical rules, which you'll quickly learn. There's no random element in the track, either, in spite of how it seems to vary. As you race, you'll find that the track responds realistically to speed.

To conserve memory, I made carts that have collided disappear with my built-in fade-out routine. Because of the random numbers used, the fade-outs have various durations.

Go-Carts is challenging and fun. Load it up and see who's the better driver—you or your Commodore.

RUN it right: **C-64; joystick**

Recoil

By Jeffrey Panici

RECOIL IS AN EGG-CITING arcade-style game for the C-64 that features multicolored graphics and fast action. The object is to direct the "snake" to the eggs he wants for lunch without letting him bump into obstacles or double back and touch himself. Recoil requires a joystick plugged into port 2.

When the title screen appears, press the firebutton to draw the game screen and begin play. The snake first appears as a pair of eyes. When you push the joystick to launch him on his way, he grows forward in the direction you push. At high levels of play, when the snake must find a lot of eggs, his body gets very long and fills a lot of the screen, making it hard to avoid touching himself.

There are as many eggs on the screen as the current level of play plus one. Each egg the snake eats is worth ten points times the current level of play. When he's eaten all the eggs, you advance to the next level of play.

The snake must slither around numerous rocks in his quest for eggs, and there are more rocks at each level. If he bumps into a

rock, he loses one of his four lives. He also loses a life if he hits the wall that surrounds the game screen, doubles back and touches himself or doesn't get all the eggs on the screen. The game ends when he's lost all of his lives. You can play again by pressing the firebutton.

RUN it right: C-64

Quick Windows

By Jeffrey Panici

PROGRAMMERS OFTEN want to spruce up a game screen or title screen or just make a Basic demo more eye-catching. Well, let me introduce you to Quick Windows, a program that gives our beloved little brown micro five routines for enhancing windowing capability. In addition to the Quick Windows machine language, your ReRUN disk contains a demo that shows how Quick Windows works and should spark ideas for using it. Run the Basic loader if you want to create the object code on another disk.

SYS S,X,Y,C,W,L sets up a *solid box* on the screen. Variable X is the box's horizontal position, Y is its vertical position, C is the color, W is the width and L is the length (or height). For best results, the value of X should range between 3 and 38. To obtain different effects, try changing the variables' values in the demo.

A *hollow box* is opened with SYS S + 108,X,Y,C,W,L. The parameters are the same as for solid boxes, except the value of W is increased by one to allow for the graphics characters used. Also, you can open a hollow box only in Uppercase/Graphics mode.

An *extended box*, with a border of one color and an interior of another, is opened with SYS S + 353,X,Y,C1,W,L,C2. All the parameters are the same as for solid and hollow boxes, except there are two color parameters: C1 is for the interior, and C2 is for the border. Again, try changing the values of X, Y, W and L in the demo to see the effects.

As an extra help, I've included a *plot at* routine that positions the cursor. This routine is called with SYS S + 534,X,Y, where X is the

cursor's horizontal position, and Y is its vertical position. X can't be greater than 38 or less than 0, while Y can't be greater than 23 or less than 0.

The *memory mover* is an extra routine that saves a constructed screen at a new location in memory. The format is SYS S+284,S,E,L, where S is the starting location, E is the ending location, and L is the new location. You can also capture the entire text screen and store it at location 12288 (decimal) with SYS S+284,1024,2040,12288. Bring it back with SYS S+284,12288,12288+1000,1024.

Programmers will note that color memory can be moved just as easily as screen memory.

RUN it right: C-128 (in 40-Column mode); joystick optional

Crazy Squares

By James Allen

THE GAME OF capturing squares by connecting dots on a rectangular grid must be familiar to millions who used it to pass study hall time in school. It's lots of fun, but drawing in the grid beforehand can drive you dotty. Crazy Squares is a colorful computer version of the pencil-and-paper game that saves the trouble of drawing in all those dots—and it lets two to four people play.

The object is to draw lines between dots to form closed squares. When you draw the fourth side of a square, it fills with your color and you earn one point. Players take turns inserting lines, but when you close a square, you get another turn—and keep getting turns as long as you can continue completing squares. Then normal rotation continues. For a forcing strategy to work, the players ought to agree to a rule that you *must* complete a square if you can, just as you must jump when you can in checkers. This isn't necessary for the game to work, of course, but it does create more suspense and fun.

If you try to draw over an existing line, a buzz and written message will alert you. The game ends when one player completes more than half of the 108 squares.

You position the Crazy Squares cursor for drawing lines with a joystick in port 1 or by using the 128's numeric keypad, with 8, 2, 4 and 6 moving the cursor up, down, left and right, respectively, and 1, 3, 9 and 7 moving it diagonally. Pressing the firebutton or the keypad's enter key draws a line where the cursor is located. The joystick moves the cursor more quickly than the keypad, but may give you trouble shifting from horizontal-vertical to diagonal movement.

Crazy Squares provides an option that the pencil-and-paper game does not: During set-up, you can get a jump start into the game by having the computer randomly draw in a number of lines (never more than two sides of a square, however). Choose this option by pressing F at the prompt. For a normal game, starting with a blank grid, press N.

PROGRAM NOTES

Crazy Squares is written in Basic 7.0 and includes some routines that you might find useful in your own programs. Lines 24–30 slice up a string and expand it both vertically and horizontally into pixels to create the Crazy Squares title. Line 58 converts a numeric variable to a string variable, chopping off the blank space reserved for the sign for easier integration into larger strings (a must for the Char command). All Getkey commands are prefaced by POKE 208,0: POKE 209,0 to clear the input buffer, thus avoiding premature input. The subroutine at line 66 puts messages on-screen one letter at a time to call attention to them.

If you're using a television instead of a monitor, you may want to change the program colors to suit your TV's color-handling capabilities. The player colors can be changed in line 50 (the second, fourth, sixth and eighth data elements), and the background and border colors can be changed in line 24.

Though quite simple to grasp, Crazy Squares can involve some complex strategies. Try to outguess your opponents and plan your strategy several moves ahead. And, above all, have fun!

Out of Order

By Penny DeGroff

OUT OF ORDER is a great game for learning to alphabetize letters or for just having fun. All it takes is a little imagination! The scenario: You've just obtained a part-time position with the ABC Letter Carriers Association. Your job: to quickly arrange, in alphabetical order, seven random letters and earn money in the process.

The game screen shows a six-by-seven matrix of squares, with seven letters in the bottom row and a "guard" moving back and forth in each of rows 2 through 5. The letter carrier starts on row 2 and places the alphabetized letters on the top row.

Suppose the letters at the bottom are N, C, T, Z, D, E and P. With a joystick in port 2, move the letter carrier to the square directly above the C (the first letter alphabetically) and press the firebutton; the C disappears. Then move the carrier to the first square in the second row, press the firebutton again, and the C appears directly above in row 1. Repeat this procedure until all the letters are in their correct alphabetical positions in the first row.

Of course, you don't have all day to do this! You must complete the alphabetizing task before a border, representing your work time so far, has been drawn around the screen.

The guards, continually moving back and forth in their rows, make the job more difficult. You can't move the letter carrier to a square occupied by a guard, and so must scoot around or wait for the guard to pass. Also, the guards won't hesitate to capture the carrier. When this happens at skill level 1 (the easiest), you keep the letter but lose some time. At level 2, the letter returns to its original square at the bottom of the screen, and you must fetch it again. At level 3, the guard takes the letter and won't give it back!

When you've placed all the letters in the top row, or when the border is completely drawn, the delivered letters appear in a separate screen display. A letter is in its correct position if there is a green pointer below it. Otherwise, the appropriate letter for that position is shown beneath a red pointer.

Your earnings appear next. Base pay is \$10 for each letter placed in the correct position multiplied by the current skill level (1, 2 or 3). If all seven letters are in their correct squares, you get a proficiency bonus of \$10. You also receive "early completion pay" of \$1 for each unit of the border not drawn around the screen.

RUN it right: C-128 (in 40-Column mode); joystick

Cannonade

By John Fedor

CANNONADE IS A two-player combat game that requires careful calculation instead of speed. You're not on the front lines, but behind them, using a cannon to destroy enemy bases, cities and power centers—and to earn points. Your aim must be true, or you'll destroy resources your side may need and lose points instead. The same joystick in port 2 controls both players' cannons.

The program begins by asking for the players' names. Then a menu offers player 1 a choice of either the U.S. or the U.S.S.R. Player 2 gets the other country by default. You can also restart the program from the menu, in case a player's name was mistyped.

Next, the program pauses to initialize some variables and shapes on the graphics screen. When it says it's ready for play to begin, press the firebutton to reveal the field of combat, which shows a cannon swiveling back and forth on the right. To the left of the cannon a zig-zag vertical line forms the eastern border of the enemy country, and to the west of that lies a landscape dotted with various objects. The cannons are military bases, the boxes with semicircles on top are power centers, the groups of three boxes are cities, and the triangle-shaped trees are resources.

Below the field of action are listed the elevation angle (in degrees) of your shot and the power behind it, along with the number—1 to 5—of the shell you're currently firing. You can change the angle and power by pressing the joystick right-and-left and up-and-down, respectively. An angle of 0 is horizontal, while 90 degrees is straight up. Don't expect the cannon image to move when you change the

angle, or to see your shot arc as it crosses the screen, because your viewpoint is from directly above.

The power and angle combine to determine the horizontal distance the shell will travel. At a power of 6 or 7 and an angle of 45 degrees, it will reach the eastern border of the enemy country, while at 20 or 21 and 45 degrees it will go to the far west. The power can go as high as 30, enough to put your shot not only off the screen but into the next room! You can raise and lower the cannon, but not turn it. Instead, you must shoot when the cannon is passing abreast of your target.

Now that your cannon is poised, you must be anxious to nuke your friend. Just wait until the cannon moves to the correct position; then press the firebutton and your shell takes off with a roar.

After the shell explodes, the program displays how much of what has been destroyed and posts your gains or losses. For each percentage point (hundredth) of a base you destroy, you earn 5 points; of a power center, 3 points; of a city, 2 points; and of a resource, -2 points.

That's right, you lose two game points for every percentage point of a resource you destroy. And resources are vulnerable—they get damaged even at the outer limits of an explosion—so aim well! It is increasingly more difficult to damage cities, power centers and bases—you must strike very close to damage a base.

The range of an explosion is 36 units, represented by circles moving outward from the center. Distances for damage are calculated from the center of the explosion to the center of the object. Play a game and you'll get the feel.

Each object on the screen is colored according to its status, from green for undamaged, through light green, yellow, light red and red to gray, for almost annihilated. An annihilated object disappears from the screen.

After your shot, it's your erstwhile friend's turn! When each player has launched five shells, a final screen will show the game statistics and declare a winner. To play again, press the firebutton.

PaintView III

By Joe Buckley

PAINTVIEW AND PaintView II, my two earlier geoPaint-viewing programs, display a geoPaint screen in full color within a 320 × 192- or 320 × 200-pixel window, using GEOS's 40-Column mode. This is fine for anyone using a C-64, but owners of a C-128 with its 80-Column mode are left in the dark. Now, thanks to generous help from Bill Coleman (of geoTerm fame), I've written a completely new version of PaintView. It lets you view geoPaint screens in full color within a 640 × 172- or 640 × 200-pixel window using the C-128's 80-Column mode.

GETTING UNDER WAY

Load and run GEOS 128 (any version) in 80-Column mode, then place the ReRUN disk in a drive and display the files on it from the deskTop. Next, copy the PaintView III icon to a GEOS work disk by dragging the icon to either the border or another disk icon. Once it's copied, double-click the icon and a custom file-handling dialog box will appear, showing all the geoPaint files in the currently active disk drive. Your options are these:

OPEN: Reads a highlighted geoPaint file.

DISK: Lets you change disks in the current drive.

DRIVE: Appears on GEOS systems with two or more drives. If your system has different drive types and is not equipped with a RAM expansion unit, this icon will not appear. On an REU-equipped system, you're allowed to access up to three drives.

CANCEL: Takes you to the final dialog box, where you can exit to a credits sequence or directly to the deskTop.

The file-selection dialog box is a modification of Bill Coleman's custom file handler. With it you can handle more than 15 geoPaint files and look through the filenames in several ways. You can select a geoPaint file as you normally would, by clicking on the name to highlight it, or you can use the cursor up-down key to scroll the highlight bar one filename at a time. In addition, if there are more

than seven geoPaint files on the active disk, you can scroll the highlight with the dialog box's Up and Down options. With more than seven files you can also use the Page Up and Page Down icons to quickly move the top name on the list by seven. The cursor left-right key does this from the keyboard, too.

To open a geoPaint file, you have three options: highlighting the file and clicking Open, highlighting the file and pressing the return key, and double-clicking on the filename within the list itself.

FOR YOUR VIEWING ENJOYMENT

If you own the older, flat C-128 with its original 16K RAM chip set, you will view geoPaint files within a 640×176 -pixel window. The reason for the reduced display size is the 16K is too small to hold the full-size hi-res screen plus the additional color information.

The 176-pixel height displays a fraction under one-fourth of the geoPaint screen. To scroll through the image, just move your mouse up or down (the mouse pointer is invisible) or press the cursor up-down key. The program will read in one more part of the geoPaint image from disk, scroll the screen, then add the new portion of the image either to the top or bottom of the screen. To display the entire image quickly, use the T, C or B key to move directly to the top, center or bottom. This forces the program to read in 11 new records, or portions of the image, for display. Hitting the mouse button restores the file-handling dialog box.

If you own the newer 128D or have upgraded your VDC RAM to the newer 64K chip set, you can view the geoPaint screen within a 640×200 -pixel window. This is because the 64K can hold the 16K bitmap and the 2000 color cards all at once.

The 64K RAM is large enough to hold the entire geoPaint file, color and all, so no additional disk reads are necessary. Once you've selected a file, it will load into VDC RAM, letting you watch the first screen's worth load. Then the drive will continue to access the file until the remainder is loaded. This may take a while, but there's a payoff later in instantaneous scrolling.

A screen display of 200 pixels shows slightly more than one-fourth of the geoPaint image. As with the 16K version, move your input device up or down or use the cursor up-down key to scroll the file. The T, C and B keys jump to their respective portions of the image here, too. Hitting the mouse button will restore the file-selection dialog box.

Alley Wars

By Victor Barbee

DOG-GONE IT! This could be a real cat-astrophe. The city is in an uproar as canines and felines battle for dominance.

That's the scene in *Alley Wars*, a C-64 game designed for two, three or four players. The battleground covers nine neighborhoods of nine blocks each. Wide boulevards separate the neighborhoods, with a single block at each intersection.

The combatants are divided into four squads: two cat squads, represented on the board by red and purple, and two dog squads, represented by green and yellow. As top cat or top dog you must lead your charges to occupy a horizontal, vertical or diagonal line of three blocks within a neighborhood or across an intersection—and prevent opposing squads from doing the same. Blocks you occupy become your squad's color.

When four people play, each commands one cat squad or one dog squad. When two play, the first person commands both cat squads and the second both dog squads, but a winning line can still consist of only one color. When three people play, they don't have specific squads and can win with any color.

Alley Wars is played with either a single joystick in port 2 or joysticks in both ports 1 and 2. The red cat squad goes first. As its commander, use the joystick to position the white frame over the desired block and press the firebutton. The block will become yours and change to your squad's color. You can't claim blocks that are already occupied.

As soon as you've claimed a block, game control passes to the next squad. When a squad succeeds in forming a three-block line, a winning fanfare sounds, the border color changes and the game ends. To start another game, press the firebutton.

Alley Wars is somewhat similar to tic-tac-toe, but unlike tic-tac-toe the block arrangements and playing strategies seem endless. When you command two squads, often one can be used for diversion as the other executes a complex and hopefully subtle offensive move.

While I have yet to develop any strategies that assure consistent winning, many elegant screen patterns have emerged from Alley Wars. And there's no better game for testing the nerves of three or four players!

RUN it right: **C-64; Commodore-compatible printer**

Address Manager

By Ralph Rethoret

PLENTY OF PROGRAMS store lists of names, addresses and phone numbers. However, I found that most have serious limitations, so I decided to develop one from scratch that would do exactly what I wanted. Address Manager is the result.

Designed for personal use, Address Manager can be equally useful for clubs, churches, social groups, small businesses—any organization that uses compilations of personal names and addresses. However, it won't work for lists of company names, since sorting is by the first letter of the family name.

To avoid compatibility problems, I've included only simple printer commands in Address Manager. Any Commodore-compatible printer should work. Address labels and lists are printed in single-column, but telephone lists are double-column and the data printout is triple, to save paper. Lists jump across page perforations, and label spacing is set for $15/16$ -inch tractor-feed labels. For these features to work right, lines must be spaced six per inch. Experiment with your own printer (before you've entered a long list of names) to establish proper paper positioning.

Graphics and Data are two accessory programs needed by Address Manager. All three programs are written in Basic, so you can modify them if you wish. Before using the programs, copy them to a master disk and place a write-protect tab over the write notch. You'll use this master disk to generate working disks.

Format as many working disks as you want, then insert the master disk into the drive, load Address Manager and save it to each working disk. Next, insert the master disk again, load the Graphics program,

insert the first working disk and run Graphics to generate a sequential file on the working disk. Then repeat the process with the other working disks. Finally, insert the master disk once more, load the Data program and run it on each working disk. Now put the master disk away until you need more working disks.

With all these steps done, each working disk will hold three files: the Address Master program and sequential files for graphics and data storage. Every time you enter and save new data, the data file will be upgraded to include it, so expect loading times to increase. Each side of each disk can accommodate 162 entries, for a total of 324 per double-sided disk.

Now it's time to try using one of the working disks. Put the disk into the drive, then load and run Address Manager, which will load the two sequential files and display a main menu. The menu options are Create a New Record; Check and/or Change; Print Out All Data; Print Phone Numbers; Labels and/or Lists; and Quit, Sort and Save. Try everything on the menu, and don't worry about making errors—you can reformat the disk and start over any time.

Once you're ready to apply Address Manager, make working disks in pairs and keep one of each pair as a backup. To back up a file, load and run Address Manager from the regular working disk, insert the backup disk into the drive and save. Frequent backups are excellent insurance.

When making new entries to a file, the postal format and the country name for the U.S.A. and Canada are automatic. For other countries, you have more freedom. Either of the formats often used elsewhere—postal code then city, and vice-versa—is allowed. Since this is an address file, entries must contain both the name and address. Other information, however, is optional.

Sometimes an entry you made will be erased or the entry prompt will be repeated. This means you didn't follow instructions! Just repeat the entry properly. When using the Check and/or Change option, some safety features are deliberately disabled. Beware! You could enter an address where a phone number belongs.

If you really mess up an entry, the solution is simple. Since an entry with no name is forbidden, just erase the name and the whole entry will be deleted. All the data sits in memory until you choose the Quit, Sort and Save option and then the data is saved to the disk. If you've made no changes or have second thoughts about the changes you've made, just forego Save, remove the disk and the original data will remain.

The Quit, Sort and Save option also triggers the sort routine. If you try to print out before a file with new entries has been saved, it won't be sorted. The program decides whether sorting is needed. That's it. Get started and enjoy!

RUN it right: C-64

Frantic!

By John Green

FRANTIC!, BASED ON the popular board game Parcheesi, is a game of excitement and strategy for both children and adults. By rolling a die you must move the four pawns of your color from square to square around the playing board until they eventually reach home base. Sound easy? Well, as you're moving your pawns, other players will be trying to land on them and remove them from the board, so your pawns must start over again.

To play Frantic!, first load and run the boot program, then, at the prompt, press return to load and run the main program. When the title screen appears, press the space bar to specify the number of players (computer and/or human), their colors and, if human, their names. There can be one to four players with the colors yellow, blue, green and red. For the first game, I suggest you have all four computer players play against each other, to see how the game goes. (You might not want to watch the whole game, because it can take up to an hour for the computer to defeat itself.)

The player with the highest number rolls first, then the others take turns clockwise around the board. The computer rolls automatically, but people must press the space bar to roll the die.

You get three rolls of the die per turn until you roll a six, which places one of your pawns on the starting arrow of your color. This ends your turn, and on subsequent turns you get only one roll, unless all your active pawns get bounced from the board, you make it to home base, or you roll another six. Then you get three rolls per turn again until you roll six and another pawn goes to the starting arrow.

When each player has at least one pawn on the board, the fun really starts. Now you can set up a strategy to either get to your home base or prevent other players from getting to theirs. If you have two or more pawns on the board, some can go for home base and the others can act as "game board bouncers."

To choose which pawn to move, press the space bar to place the white box over the pawn you want. Then press the return key.

Eventually some of your pawns will reach home base, which consists of four squares in sequence. To move a pawn onto the furthest unoccupied home base square, you must roll the exact number of spaces needed.

The winner is the first player to get all four pawns onto home base. Then the remaining players can continue to see who comes in second, third and fourth; you can start a new game; or you can return to Basic by answering the yes/no questions on the screen.

You'll really get Frantic! when there are lots of pawns on the board, and everyone is landing on everyone else. Who knows who will win! ■

RE == RUN

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The programs in ReRUN will not run under all system configurations. Use the RUN it Right information included with each article as your guide.

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